

Remarks

Claims 1, 3-6, 8-13, 15-18, 20-30, 35-38, 40-42, 44-46, and 51-67 are pending in the Application.

Claims 1, 3-6, 8-13, 15-18, 20-30, 35-38, 40-42, 44-46, and 51-67 stand rejected.

Claims 24-30, 35-38, 40-42, 44-46, and 51-67 have been amended herein.

I. EXAMINER INTERVIEW

On May 24, 2005, the undersigned counsel for Applicant and co-inventor Dr. Ken Smith met with the Examiner to discuss the Application and the Final Office Action. Applicant and its counsel appreciate the opportunity to have this discussion and wish to thank the Examiner for the interview.

II. 102(e)/103(a) REJECTIONS OVER *KUPER*

Examiner has rejected Claims 1, 3-6, 8-13, 15-18, 20-30, 35-38, 40-42, 44-46, and 51-67 under 35 U.S.C. § 102(e) as anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as obvious over *Kuper*, United States Patent No. 6,749,712 (published patent pre-grant United States Patent Application Publication No. US 2002/0092613 A1 ("*Kuper*"). Office Action, at 2. Applicant respectfully traverses the rejections.

In Applicant's Amendment Under 37 C.F.R. § 1.111, filed November 12, 2004 ("Applicant's 1.111 Amendment"), Applicant noted the present Application was filed the same day as *Kuper*. Applicant's 1.111 Amendment, at 11. Applicant further noted that *Kuper* claimed priority to United States Provisional Patent Application Serial Number 60/227,184, filed on August 23, 2000 (the "*Kuper* Provisional Patent Application"),¹ but, unlike Applicant's Provisional Patent Applications,

¹ The *Kuper* Provisional Patent Application was filed August 23, 2000, which predates the two provisional patent applications to which Applicant claims priority, namely United States Provisional Patent Application Nos. 60/227,604 and 60/268,269, filed on August 24, 2000 and February 13, 2001, respectively (collectively, the "Applicant Provisional Patent Applications"). Applicant again notes the *Kuper* Provisional Patent Application was filed one day before the first of the two filed Applicant Provisional Patent Applications. As noted *infra*, the *Kuper* Provisional Patent Application is not material to the present Application. Nonetheless, if the Examiner decides to cite the *Kuper* Provisional Patent Application as prior art, Applicant intends to swear behind this reference. Accordingly, Applicant respectfully asserts it is not waiving its rights to swear behind this reference and reserves the right to do so at the appropriate time.

which did disclose polymer wrapping of nanotubes, no such disclosure was found anywhere in the *Kuper* Provisional Patent Application. *Id.*

In the Final Office Action, the Examiner agreed with Applicant that the following two sentences in *Kuper* were not included in the *Kuper* Provisional Patent Application:

For purposes of this disclosure, “chemical treatment” or “chemically treated” can include functionalization, (covalent attachment of organic functional groups), adherence of a surfactant molecule or wrapping of a polymer around the body of the tube. The sol gel process, as defined in this patent will include a sol of chemically treated SWNTs using the definition of definition of chemical treatment above.

Final Office Action, at 2-3. By implication, the Examiner appears to concur that the only mention in *Kuper* respecting surfactants, the adherence of a surfactant molecule to a nanotube, and the wrapping of a polymer around nanotubes was in these two sentences, and that such disclosure was not expressly found anywhere in the *Kuper* Provisional Patent Application. *Id.* Applicant again notes that the terms “surfactant” and “wrapping” are not used anywhere else in *Kuper* other than in these two sentences and are simply not found anywhere in the *Kuper* Provisional Patent Application. *Id.*

Therefore, this disclosure of the *adherence of a surfactant molecule or wrapping of a polymer around nanotubes* is new matter not found in the *Kuper* Provisional Patent Application.

Nonetheless, in the Final Office Action, Examiner states (i) that the above quoted sentences (added in *Kuper*) are “a description of properties inherent in the disclosed process/composition,” (ii) the *Kuper* Provisional Patent Application “contains the full disclosure necessary to anticipate/render obvious the instant claims,” and (iii) *Kuper* is thus entitled to the filing date of the *Kuper* Provisional Patent Application. Office Action, at 3. Applicant respectfully disagrees.

Under the M.P.E.P., the filing date of a U.S. provisional patent application can be used as the 35 U.S.C. § 102(e) date *only* if the provisional application supports -- in compliance with 35 U.S.C. § 112, ¶ 1 -- the subject matter relied upon to make the rejection. M.P.E.P. § 2136.03(III & IV). Thus, for the purposes to which the Examiner is citing *Kuper*, for *Kuper* to be able to claim the earlier effective filing date of the *Kuper* Provisional Patent Application, the *Kuper* Provisional Patent Application must have adequate disclosure (per § 112, ¶ 1) respecting coating single-wall carbon nanotubes, at least in part, with a polymer molecule.

The Federal Circuit, whose precedent is binding upon the USPTO, has specified that § 112, ¶ 1, must be utilized when determining whether a feature is inherently disclosed in a parent application or whether new matter was added in the child application. *See, e.g., Schering Corp. v. Amgen Inc.*, 222 F.3d 1347, 1352, 55 U.S.P.Q.2d 1650, 1653-54 (Fed. Cir. 2000). The parent application must support the amended matter under § 112, ¶ 1; otherwise, it is new matter added by the child application. *Id.*

Put simply, a hypothetical claim requiring polymer wrapped carbon nanotubes based upon the disclosure of the *Kuper* Provisional Patent Application would be rejected by the USPTO under § 112, ¶ 1, for lack of support. For such reason, *Kuper* cannot receive the effective filing date of the *Kuper* Provisional Patent Application for § 102(e) purposes pertaining to this new matter.

Applicant specifically points out that the polymer wrapping of nanotubes is not inherently disclosed in the *Kuper* Provisional Patent Application. For inherency to be shown factually, it must be “clear that the missing descriptive matter is *necessarily* present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill.” *Continental Can Co. v. Monsanto Co.*, 948 F.2d 1264, 1268, 20 U.S.P.Q.2d 1746, 1749 (Fed. Cir. 1991) (emphasis added). The *Kuper* Provisional Patent Application is directed to methods that include a step of functionalizing single-wall carbon nanotubes, *i.e.*, “using known laboratory protocols to add chemically reactive groups to the tube ends and/or tube body” of carbon nanotubes. *Kuper* Provisional Patent Application, at 9 (further noting “[t]his synthesis is performed using known methods for side wall (tube body) functionalization of the carbon nanotubes.”) The *Kuper* Provisional Patent Application does not disclose what these “known laboratory protocols” are; however, Applicant notes that techniques to end wall and side-wall derivatization of single-wall carbon nanotubes were well known at the time of the filing of *Kuper* Provisional Patent Application.² On the other hand, polymer wrapping of carbon nanotubes was not then publicly known (much less a well-known laboratory protocol).

Kuper is thus not afforded the earlier filing date of the *Kuper* Provisional Patent Application

² Such techniques are disclosed in PCT/US98/04513 (disclosing techniques for chemically attaching groups to the end walls of single-wall carbon nanotubes) and PCT/US99/21366 (disclosing techniques for chemically attaching groups to the side walls of single-wall carbon nanotubes). *See* Application, at 2, *ll.* 31-37.

pertaining to this new matter. As this new matter is the only portion of *Kuper* that is germane to the Examiner's rejections, Applicant respectfully requests that the Examiner withdraw the rejection of Claims 1, 3-6, 8-13, 15-18, 20-30, 35-38, 40-42, 44-46, and 51-67 under 35 U.S.C. § 102(e) as being anticipated, or in the alternative, under 35 U.S.C. § 103(a) as being obvious over *Kuper*.

IV. 102(e)/103(a) REJECTIONS OVER *BOWER* AND OVER *DAVEY*

Examiner has rejected Claims 24-30, 35-38, 40-42, 44-46, and 51-67 under 35 U.S.C. § 102(e) as anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as obvious over Bower *et al.*, United States Patent No. 6,630,772 ("*Bower*"). Office Action, at 3-4. Examiner has rejected Claims 24-30, 35-38, 40-42, 44-46, and 51-67 under 35 U.S.C. § 102(e) as anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as obvious over Davey *et al.*, United States Patent 6,576,341 ("*Davey*"). Office Action, at 4-5. Again, Applicant respectfully traverses the rejections.

During the Examiner interview, it was discussed that these claims would either be amended to add elements to the claims to recite "dielectric" properties, such as those provided in Claims 1-23 of the Application, or be amended such that they recite method limitations. To facilitate prosecution, Applicant has so amended the claims.

Applicant has amended Claims 24-30, 35-38, and 51-67 such that these are now drafted as method claims.

As to the remaining rejected claims (Claims 40-42 and 44-46), Applicant has amended these claims such that the claimed film or fiber is a dielectric material, wherein the aggregates of single-wall carbon nanotubes (that the claimed film or fiber comprises) are substantially electrically-isolated from one another.

In view of these amendments to the claims, Applicant respectfully requests that the Examiner withdraw the rejections of 24-30, 35-38, 40-42, 44-46, and 51-67 under 35 U.S.C. § 102(e) as being anticipated, or in the alternative, under 35 U.S.C. § 103(a) as being obvious over *Bower* and withdraw the rejections of 24-30, 35-38, 40-42, 44-46, and 51-67 under 35 U.S.C. § 102(e) as being anticipated, or in the alternative, under 35 U.S.C. § 103(a) as being obvious over *Davey*.

V. CONCLUSION

As a result of the foregoing, it is asserted by Applicant that the Claims in the Application are now in a condition for allowance, and respectfully requests allowance of such Claims.

Applicant respectfully requests that the Examiner call Applicant's attorney at the below listed number if the Examiner believes that such a discussion would be helpful in resolving any remaining problems.

Respectfully submitted,

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